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Anatomico-Chirurgical VIEWS

OF THE

MALE AND FEMALE PELVIS;

WITH

APPROPRIATE EXPLANATIONS

AND

REFERENCES TO THE PARTS.

BY JOHN JAMES WATT,

SURGEON.

THE ENGRAVINGS EXECUTED FROM ORIGINAL DRAWINGS BY LEWIS.

FASCICULUS II.

Οὕτω γὰρ ἂν μάλιστα ἢ δυνήσομαι εἰπεῖν, ἢ ὑμεῖς μαθήσεσθε.

ÆSCHINES, ΠΕΡΙ ΠΑΡΑΠΡΕΣΒΕΙΑΣ.—Orator. Græc.
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1811.

TO

SIR CHARLES BLICKE,

Surgeon to St. Bartholomew's Hospital,

Sir,

As a tribute of gratitude for the many favors received, and as a memorial of respect for your distinguished professional abilities, which have placed you in the situation you have so long filled with honor to yourself and benefit to society, These Pages are inscribed,

BY

Your most respectful

and obedient servant,

JOHN JAMES WATT.

Bartholomew Close, January, 1811.

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ANATOMICO-CHIRURGICAL VIEWS,

&c.

EXPLANATION OF PLATE I.

The Pelvis, with the Inferior Extremity of the Vertebral Column, of the Male Subject. The Bones are represented as connected by their Ligaments: and the Pelvis was so placed, that the End of the Os Coccygis could be just seen above the Pubes.

The pelvis is composed of the two ossa innominata, the sacrum, and os coccygis, connected together by four articulations, viz. the symphysis pubis or anterior symphysis of the pelvis, which joins together the two ossa innominata; the two sacro-iliac or posterior symphyses, which join the ossa innominata to the sides of the sacrum; and the sacro-coccygeal articulation, which connects the sacrum and os coccygis. It constitutes a large bony cavity of irregular figure, open above and below; sustaining at its upper and back part the vertebral column, which is joined to it by the sacro-vertebral articulation, and supported below and towards the front by the two thigh bones, which, with the ossa innominata, form the hip joints. Thus it supports, above, the spine, and through it all the upper parts of the body; and it transmits this weight, below, to the lower limbs. It is the basis of the trunk, and affords the point of support, both in the sitting and in the erect attitudes of the body; by the tuberosities of the ischia in the former, and by the acetabula in the latter case: it is also, by the hip joints, the centre of all the reciprocal movements of the trunk and lower limbs.

As the anterior and posterior symphyses of the pelvis are not moveable, the sides of the cavity are not subject to change; except in a very slight degree from the motions of the os coccygis on the sacrum. Hence the lower limbs are attached to bones immoveably connected to the spine; and are permanently maintained at that distance from each other, which is measured by the interval between the acetabula. The cavity contains more or less of the small intestines, the rectum, the urinary bladder, and internal organs of generation, some muscles, the nerves and blood-vessels of the lower extremities, several absorbing vessels, and their glands.

The outline of the cavity is very irregular, and its depth consequently varies in different parts. The shallowest portion is in front, formed by the union of

the ossa pubis; the posterior boundary is exactly equal to the length of the sacrum; the sides are the deepest, from the cristæ of the ilia to the tuberosities of the ischia. The upper and anterior edge of the sacrum projects into the cavity, and is sometimes called the promontory: from this, on each side, a line is continued laterally along the middle of the os innominatum; and the two join in front at the symphysis pubis. This, which is a well-defined boundary, marking the distinction between the broad space included by the upper portions of the ossa innominata (the *superior* or *greater pelvis*), and forming the lower part of the abdomen; and the smaller division bounded by the lower part of the bones (the *inferior* or *smaller* or the proper pelvis) is named the brim or superior aperture of the pelvis; and points out the arbitrary division of the abdominal and pelvic cavities. This opening may have an oval, a circular, or a somewhat triangular figure. The upper part is chiefly formed by two slightly-hollowed broad planes, placed laterally, having the lower lumbar vertebræ projecting into their interval behind, and separated by a broad excavation in front. The intestines are supported by these, and consequently do not press perpendicularly on the organs contained in the proper pelvis.

The lower portion, or proper pelvis, is a much smaller cavity, of which the outline is nearly circular; bounded behind by the concave surface of the sacrum and os coccygis; on the sides by the ilium, ischium, and the sacro ischiatic ligaments; and in front by the ossa pubis. The inferior aperture has a less regular outline than the superior one, and can scarcely be compared to any geometrical figure. The os coccygis projects into the middle and back part: the great sacro-ischiatic ligaments, the tuberosities of the ischia, the rami of the latter bones, and of the ossa pubis, form the rest of its boundaries. It is rather heart-shaped where the ligaments are dried, and approaches more nearly to the circular figure in the recent state of the parts.

The position of the pelvis is inclined: it slants from above downwards and forwards. The promontory of the sacrum is higher than the symphysis pubis. In the erect position of the body, the last bone of the coccyx is about one inch higher than the inferior margin of the symphysis pubis. The latter part inclines from above downwards and backwards.

A line drawn from the extremity of the coccyx to the centre of the superior aperture is called the axis of the pelvis; and it cuts the plane of that aperture nearly at a right angle. The angle formed by the junction of these two lines in front is of 75°; and behind of 105°.

References to Plate I.

1. 1. 1. Bodies of the three last lumbar vertebræ.
2. 2. Transverse processes of the third and fourth lumbar vertebræ, on the right side.
3. 3. 3. Intervertebral fibro-cartilages connecting the bodies of the three last lumbar vertebræ to each other, and that of the last to the os sacrum.

Plate I.

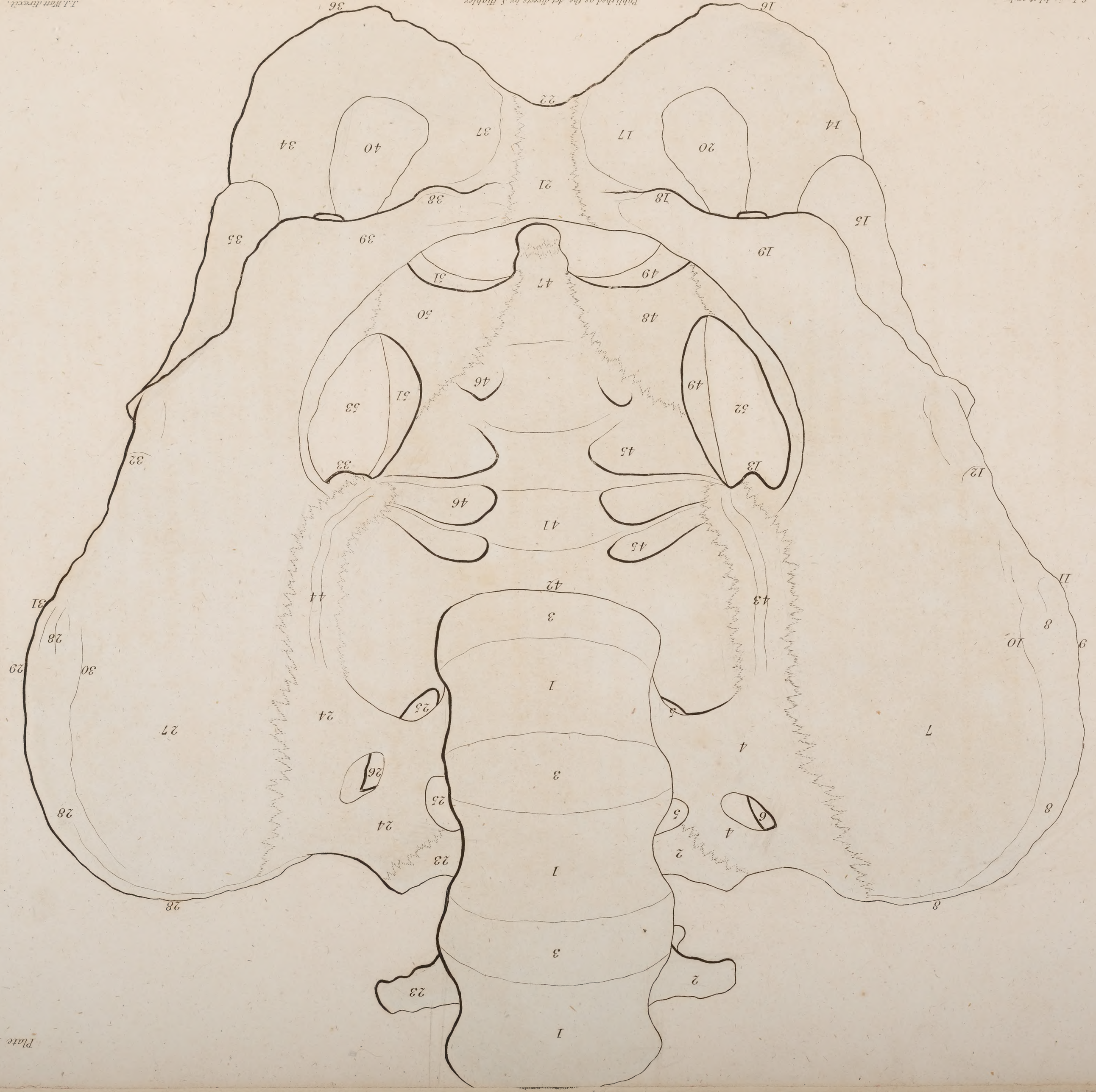
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Plate I.

4. 4. Ligaments connecting the transverse processes of the fourth and fifth lumbar vertebræ to the os innominatum, on the right side.

5. 5. Apertures caused by the decussation of the ligamentous fibres proceeding from the transverse processes of the two last lumbar vertebræ, on the right side.

6. Posterior part of the crista of the ilium viewed through an aperture in the above-mentioned ligaments, on the right side.

7. Concave surface of the ilium, on the right side.

8. 8. 8. Crista of the ilium, on the right side.

9. External labrum of the crista of the ilium, on the right side.

10. Internal labrum of the crista of the ilium, on the right side.

11. Upper front spinous process of the ilium, on the right side.

12. Lower front spinous process of the ilium, on the right side.

13. Lower back spinous process of the ilium, on the right side.

14. Bone of the ischium, on the right side.

15. Acetabulum, of the right side.

16. Tuberosity of the ischium, on the right side.

17. Bone of the pubes, on the right side.

18. Tubercle of the pubes, on the right side.

19. Smooth surface of the bone of the pubes over which the blood-vessels pass from the pelvis to the lower extremities, on the right side.

20. Membrane closing the oval aperture, or foramen thyroideum, on the right side. The opening in this membrane, through which the blood-vessels, &c. pass, cannot be distinctly seen in this view of the subject.

21. Symphysis of the pubes.

22. Arch of the pubes.

23. 23. Transverse processes of the third and fourth lumbar vertebræ, on the left side.

24. 24. Ligaments connecting the transverse processes of the two last lumbar vertebræ, on the left side.

25. 25. Apertures caused by the decussation of the ligamentous fibres proceeding from the transverse processes of the fourth and fifth lumbar vertebræ, on the left side.

26. Posterior part of the crista of the ilium viewed through an opening in the above-mentioned ligaments, on the left side.

27. Concave surface of the ilium, on the left side.

28. 28. 28. Crista of the ilium, on the left side.

29. External labrum of the crista of the ilium, on the left side.

30. Internal labrum of the crista of the ilium, on the left side.

31. Upper front spinous process of the ilium, on the left side.

32. Lower front spinous process of the ilium, on the left side.

33. Lower back spinous process of the ilium, on the left side.

34. Bone of the ischium, on the left side.

35. Acetabulum , of the left side.

36. Tuberosity of the ischium, on the left side.

37. Bone of the pubes, on the left side.

38. Tubercle of the pubes, on the left side.

39. Smooth surface of the bone of the pubes over which the blood-vessels, &c. pass from the pelvis to the lower extremity, on the left side.

40. Membrane closing the oval aperture, or foramen thyroideum, on the left side.

41. Os sacrum.

42. Projection, or promontory of the sacrum.

43. Sacro-iliac symphysis, on the right side.

44. Sacro-iliac symphysis, on the left side.

45. 45. Apertures on the concave surface of the sacrum, through which the sacral nerves pass, on the right side.

46. 46. Apertures on the concave surface of the sacrum, through which the sacral nerves pass, on the left side.

47. Os coccygis.

48. Internal, or smaller sacro-ischiatic ligament, on the right side.

49. External, or larger sacro-ischiatic ligament, on the right side.
50. Internal, or smaller sacro-ischiatic ligament, on the left side.
51. External, or larger sacro-ischiatic ligament, on the left side.
52. Larger sacro-ischiatic foramen, on the right side.
53. Larger sacro-ischiatic foramen, on the left side.

EXPLANATION OF PLATE II.

The Muscles of the Male Perineum and Anus of the Left Side.

This plate exhibits the organs which fill up the inferior aperture of the pelvis, as they are seen after the removal of the integuments and the subcutaneous cellular and adipose substance. The boundaries of this opening may be partially traced: its outline is marked from the apex of the os coccygis to the tuberosity of the ischium by the margin of the gluteus maximus; and is continued from the latter point towards the front by the ascending ramus of the os innominatum. It may be divided into an anterior portion, containing the course of the urethra, the root of the penis, and the muscles connected to these parts; and a posterior, containing the end of the large intestines and its muscles. The space included by the former is bounded externally by the scrotum in front, and the anus behind, and is called the *perineum*. The sides of this region are occupied by the crura penis, and their erector muscles, which adhere closely to the inner edges of the converging rami of the ossa innominata, as far as the point of their union by the symphysis pubis. In the triangular interval of the crura, the bulb of the urethra, surrounded by the accelerator urinæ, is seen: the lower or posterior end of the bulb is about one-half or three-quarters of an inch from the anus. The broad muscular planes forming the levatores ani fill up the back part of the inferior aperture of the pelvis: the rectum passes in the interval of their anterior margins, and is surrounded, in front of them, by its sphincters, of which the external is seen in this plate. Opposite to the interval between the anus and bulb of the urethra the transversus perinei extends horizontally from the side towards the middle of the perineum.

The vacancies between the different organs exposed in this view are filled by a large quantity of fat, the seat of the considerable abscesses which occur about the perineum and anus. The triangular interval bounded externally by the erector and crus penis, internally by the bulb of the urethra and accelerator urinæ, and posteriorly by the transversus perinei, should be attentively studied, as it is the track of the incision in the lateral operation of lithotomy. By this plate, the advantage of a free division of the transversus perinei in that operation in gaining room for the removal for the stone will be understood.

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J. A. Hatt direxit.

E. Lewis del. et sculp.

F. Lewis del. et sculp.

Published as the Act directs by S. Highley.

J. J. Watt direxit.

References to Plate II.

1. 1. 1. 1. 1.	Cut edge of the integuments of the perineum.
2.	Ascending ramus of the ischium, on the left side.
3.	Descending ramus of the pubes, on the left side.
4. 4.	Crus penis, of the left side.
5.	Erector penis, of the left side.
6.	Transversus perinei, of the left side.
7.	Transversus perinei alter, of the left side.
8.	Accelerator urinæ, of the left side.
9.	That portion of the accelerator urinæ which is attached to the crus penis, on the left side.
10.	Urethra.
11.	Sphincter ani externus.
12.	Levator ani, of the left side.
13.	Anus.
14.	Posterior fibres of the gluteus magnus, of the left side.
15.	Pointed termination of the sphincter ani externus in the perineum.

EXPLANATION OF PLATE III.

A View similar to the preceding, except that some parts are reflected, in order to expose, more clearly, the Course and Connections of the Urethra.

A THIN sheet of a fibrous structure is interposed between the rami of the pubes, and possesses, in consequence of the convergence of these bones, a triangular figure: hence it was named by Camper, the triangular ligament of the urethra. That canal, after leaving the prostate, penetrates this ligament, which is closely attached to its surface as it passes through: thus the urethra is firmly retained in its situation between the converging rami of the pubes. In front of this part the canal becomes covered by the corpus spongiosum, and ascends in front of the pubes. Just in front of the triangular ligament, the dimensions of the canal are more considerable than in any other part, and it is surrounded by a larger proportion of the corpus spongiosum, which is produced into a pendulous process of about an inch in length, hanging from the under part of the canal. This part, taken altogether, is named the *bulb*. It is exposed, in this view, by the reflection of the accelerator urinæ.

At the lower edge of the ligament, and situated more deeply than the transversus perinei, appeared in this subject another small muscle, very similar in its origin and course to the transversus. It arose from the inner surface of the ramus ischii at about the middle of the erector penis, passed transversely across the perineum, and joined the opposite muscle in front of the anus. It corresponded exactly to Winslow's description of the prostaticus inferior.

EXPLANATION OF PLATE IV.

References to Plate III.

1. 1. 1. 1. 1. Cut edge of the integuments of the perineum.
2. Ascending ramus of the ischium, on the left side.
3. Descending ramus of the pubes, on the left side.
4. 4. Crus penis, on the left side.
5. Erector penis, on the left side.
6. Urethra laid bare by the reflection of the accelerator urinæ of the left side.
7. Bulb of the urethra.
8. Accelerator urinæ reflected from its lateral attachment to the urethra and crus penis, on the left side.
9. Transversus perinei reflected on the left side.
10. A small muscle found at the lower edge of the triangular ligament of the urethra.
11. Triangular ligament of the urethra.
12. Left portion of the sphincter ani externus.
13. Anus.
14. Pointed termination of the sphincter ani externus in the perineum.
15. Levator ani.
16. Posterior fibres of the gluteus magnus, on the left side.

EXPLANATION OF PLATE IV.

A lateral View of the Viscera of the Male Pelvis in their natural Situation.

In preparing the subject for this view, a clean cut was carried through the integuments, muscles, and bones of the pelvis, so as to expose the left side of the contained parts, and to shew the relations of these to each other, and to the external surface of the body. The following parts of the left side of the body were divided; viz. the pubes a little to the left of the symphysis, the integuments of the groin, the integuments and muscles of the perineum, the corpus cavernosum penis, the integuments near the anus, the gluteus magnus, and the sacrum. When the bladder and rectum had been distended, and the cellular connexions of the organs had been sufficiently removed to expose them clearly, the viscera, being entirely unsupported on the left side, sunk downwards and forwards, so as to protrude in the direction of the inferior aperture of the pelvis more than they do in the natural state.

The bladder occupies the front and upper part of the cavity: its fundus points to the abdomen, and rises into that cavity when distended: its inferior surface rests on the rectum: the front is in contact with the ossa pubis, the back part with the rectum, and the sides with the sides of the pelvis. The rectum passes along the hollow surface of the sacrum and coccyx: it descends first behind the bladder, then passes under it, and, lastly, ascends in a small degree from the end of the coccyx to the anus. From the recti abdominis the

Plate III.

G. Lewis del et sculp.

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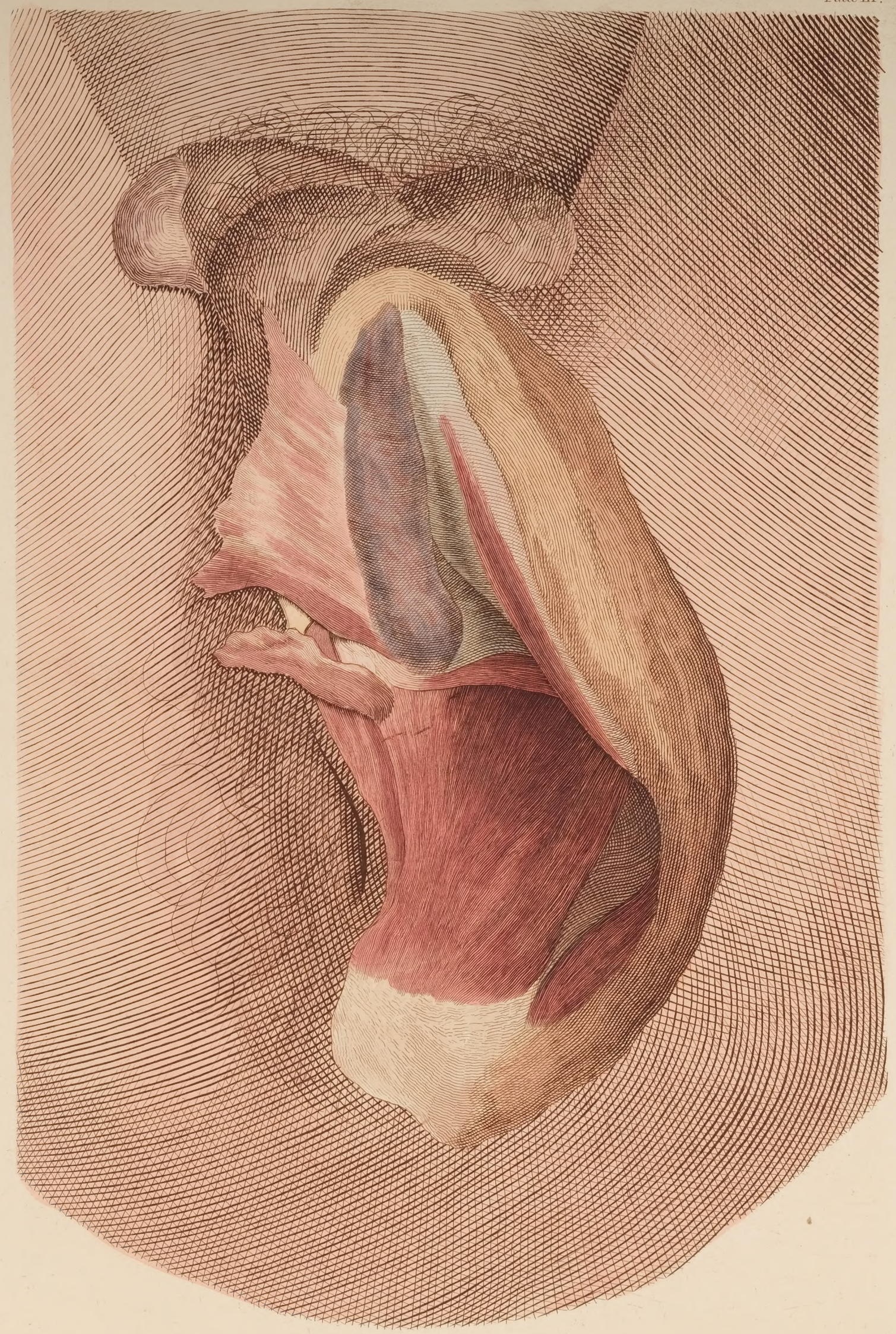

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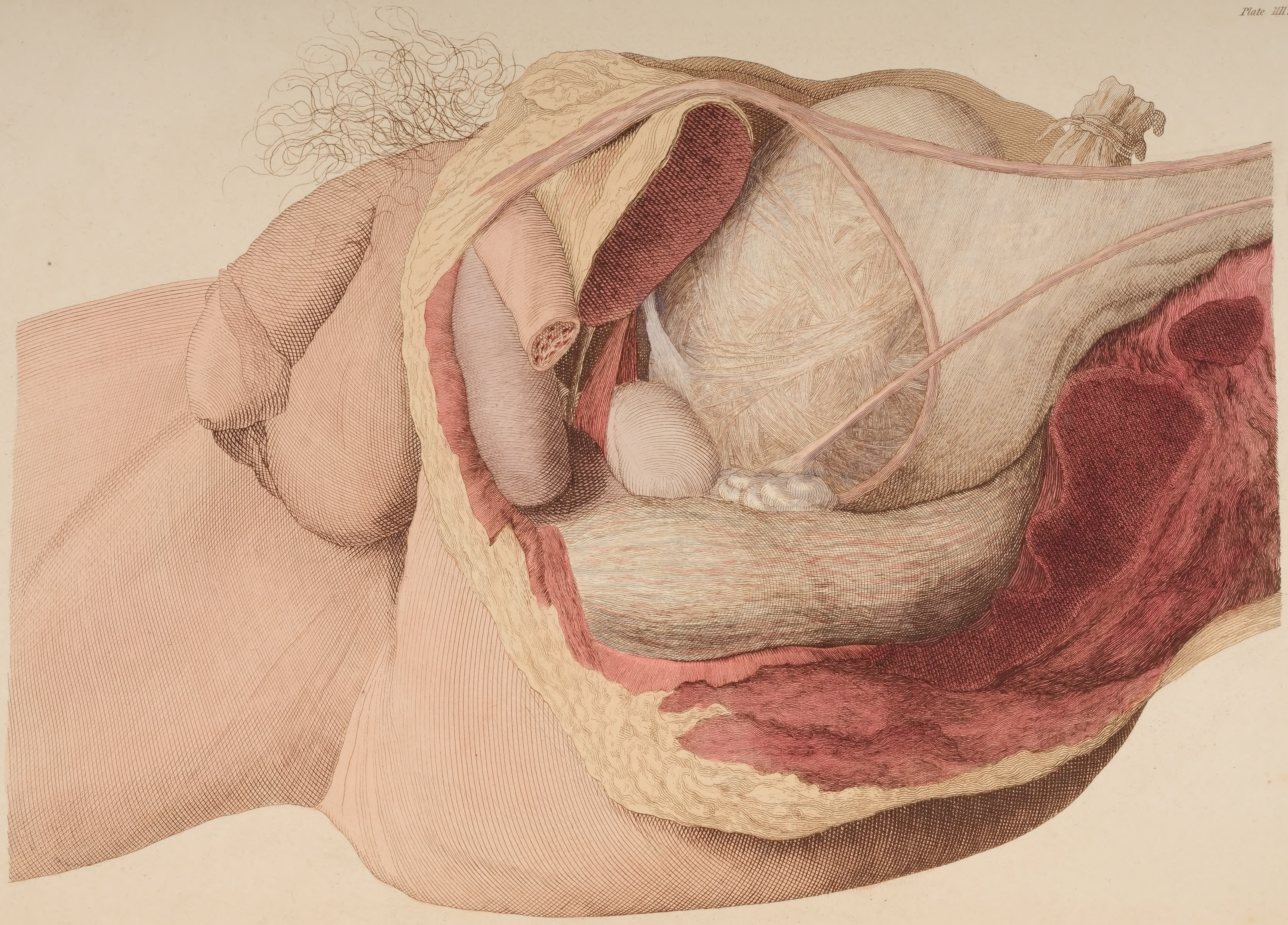

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peritoneum passes over the fundus of the bladder, and covers the back of the organ, as low as its inferior surface, from which it is continued by an angular fold to the rectum. The membrane is reflected from the sides of the bladder to the pelvis, and after lining a part of the cavity, is continued over the sides of the rectum. Thus a kind of pouch is formed by the membrane, between the bladder, rectum, and sides of the pelvis; and the inferior end of this, or the angular fold just mentioned, is a cul de sac. The course of the vas deferens, spermatic vessels, and ureter may be seen on the side of the bladder, and on that portion of the peritoneum which lines the pelvis.

The vesiculæ seminales and vasa deferentia are interposed between the under surface of the bladder and the rectum; but these two organs are in contact for a very small triangular space between the right and left vas deferens. The urethra comes from the lower part of the anterior surface of the bladder, passes forwards under the arch of the pubes, and then turns upwards, describing, at its commencement, a portion of a circle. It is surrounded, at its orifice, by the prostate gland, which adheres closely to the neck of the bladder, and rests below upon the rectum. Nearly the whole of the gland is placed at the sides and lower part of the urethra, a very thin portion covering the canal above. In front of the prostate we observe the membranous portion of the urethra, surrounded by a muscle which arises from the arch of the pubes; and at the termination of this division, where the canal begins to ascend, it is surrounded by the corpus spongiosum, and forms the bulb. The fascia which fixes the prostate and neck of the bladder to the back edge of the pubes, and the triangular ligament *(see Plate III)* which confines the urethra in front, are also seen in this plate.

References to Plate IV.

1.	Thigh of the right side.
2. 2.	Scrotum containing the testicles.
3.	Penis.
4.	Glans penis.
5.	Prepuce.
6. 6. 6. 6.	Cut edge of the integuments and adipose substance.
7.	Buttock of the right side.
8. 8.	Spermatic cord of the left side.
9.	Sawn edge of the bone of the pubes, on the left side.
10.	Left crus penis.
11.	Cut edge of the left crus penis.
12.	Urethra.
13.	Bulb of the urethra.
14. 14.	Accelerator urinæ muscle reflected on the left side. Part of this muscle has been removed.
15.	Membranous part of the urethra.
16.	Triangular ligament of the urethra.
17. 17.	A small muscle surrounding the membranous part of the urethra, and particularly described by Mr. Wilson in the Medico-Chirurgical Transactions.

18. Fascia connecting the neck of the bladder to the posterior edge of the arch of the pubes.
19. Bladder.
20. Prostate gland.
21. Vas deferens of the left side.
22. Spermatic vessels descending from the loins on the left side.
23. Ureter of the left side.
24. Vesiculæ seminales of the left side.
25. 25. Peritoneum which lines the pelvis on the left side.
26. Portion of the peritoneum descending between the bladder and rectum, forming a cul de sac.
27. Fundus of the bladder.
28. Peritoneum lining the abdominal muscles on the right side.
29. Rectum.
30. Sawn edge of the left transverse process of the last lumbar vertebra.
31. 31. Sawn edge of the sacrum.
32. Cut surface of the sacro-lumbalis and longissimus dorsi muscles of the left side.
33. Rectum, with its muscular coat exposed.
34. Sphincter ani muscle.
35. Transversus perinei muscle reflected on the left side.
36. Levator ani muscle of the left side. Part of this muscle has been removed.
37. Cut surface of the gluteus magnus of the left side.

EXPLANATION OF PLATE V.

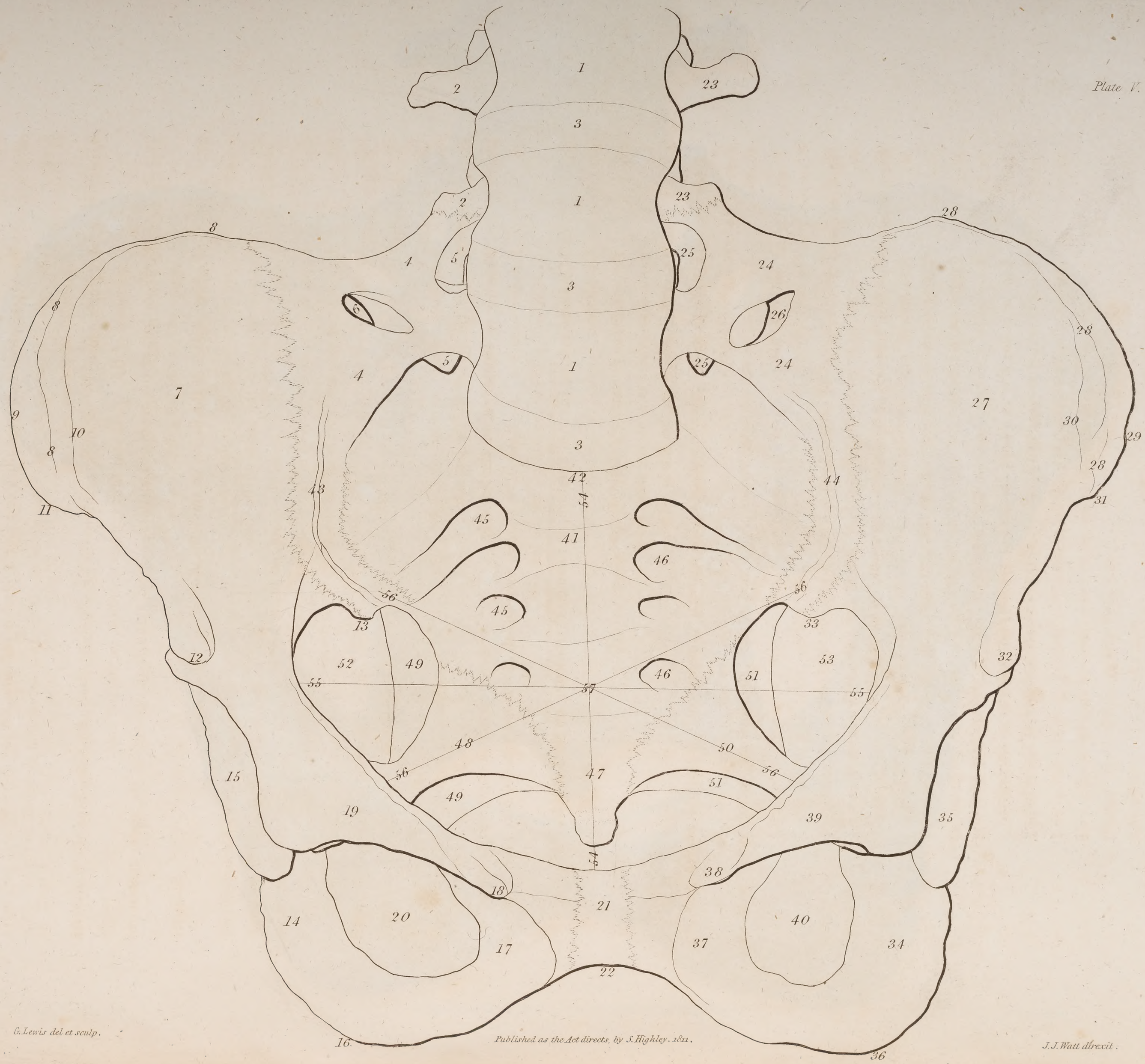
The Pelvis, with the lower End of the Vertebral Column, of the Female: the Parts are represented in the same Position as those which form the Subject of Plate I.

The reader will refer to Plate I. for the general description of the pelvis: we shall point out here the differences between that of the male and female.

The latter is considerably broader than the former in every direction. Hence the two cristæ of the ilia, the anterior and the posterior spines of those bones, the two cotyloid cavities, the tuberosities of the ischia, &c. &c. are all farther apart from each other. The distances from before, backwards, as well as those transverse dimensions, are more considerable; as may be ascertained by measuring the space between the sacrum and pubes, between the anterior and posterior spines of the ilia, or between the sacro-iliac symphysis and the foramen ovale. The oblique lines drawn between the two former directions are also longer in the female in the same proportion: consequently the superior aperture must be larger in all its dimensions.

The height of the pelvis, in the two sexes, differs in the opposite way; as it is greatest in the male. If we compare, in the male and female, the distance from the crista of the ilium to the tuberosity of the ischium, the depth of the symphysis pubis, and of the cavity of the pelvis, to the different transverse diameters, it will be very obvious, that the first dimensions do not

Plate V.



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correspond to the second, and are not encreased and diminished in proportion to the changes of the others.

By contrasting this plate with the first, it will be immediately perceived that the cavity in the female bears a larger proportion to the bony sides; that the ilia are flatter and more expanded laterally; that the curvature of the sacrum is more considerable; that the space left between the ischia and ossa pubis is much wider, and has the arched form much more clearly expressed, than in the male.

The following is a more exact comparison of the dimensions of the pelvis in the two sexes:

	In the male.	*In the female.*
The distance between the superior spines of the ossa innominata, is	9 inches.	11 inches.
Between the ilia at the superior aperture	4 inches 6 lines.	5 inches 6 lines.
Between the sacrum and pubes	from 4 to 5 inches.	4 inches 9 lines.
From the sacro-iliac symphysis obliquely to the opposite pubes	4 inches 2 lines.	5 inches.
Between the tuberosities of the ischia	3 inches 2 lines.	4 inches.
Between the apex of the coccyx and the pubes	3 inches.	4 inches 6 lines.
From the superior aperture to the tuberosity of the ischium	4 inches 10 lines.	3 inches 6 lines.
The depth of the symphysis pubis is	1 inch 10 lines.	1 inch 6 lines.
The distance of the apex of the coccyx from the upper edge of the sacrum	4 inches 10 lines.	5 inches.
The angle of the union of the ossa pubis	60° to 80°.	90°.

References to Plate V.

1. 1. 1. Bodies of the three last lumbar vertebræ.
2. 2. Transverse processes of the third and fourth lumbar vertebræ, on the right side.
3. 3. 3. Intervertebral fibro-cartilages connecting the bodies of the three last lumbar vertebræ to each other, and that of the last to the os sacrum.
4. 4. Ligaments connecting the transverse processes of the fourth and fifth lumbar vertebræ to the os innominatum, on the right side.
5. 5. Apertures caused by the decussation of the ligamentous fibres proceeding from the transverse processes of the two last lumbar vertebræ, on the right side.
6. Posterior part of the crista of the ilium viewed through an aperture in the above-mentioned ligaments, on the right side.
7. Concave surface of the ilium, on the right side.
8. 8. 8. Crista of the ilium, on the right side.
9. External labrum of the crista of the ilium, on the right side.
10. Internal labrum of the crista of the ilium, on the right side.
11. Upper front spinous process of the ilium, on the right side.
12. Lower front spinous process of the ilium, on the right side.
13. Lower back spinous process of the ilium, on the right side.
14. Bone of the ischium, on the right side.
15. Acetabulum, of the right side.
16. Tuberosity of the ischium, on the right side.
17. Bone of the pubes, on the right side.
18. Tubercle of the pubes, on the right side.
19. Smooth surface of the bone of the pubes over which the blood-vessels pass from the pelvis to the lower extremities, on the right side.

20. Membrane closing the oval aperture, or foramen thyroideum, on the right side. The opening in this membrane, through which the blood-vessels, &c. pass, cannot be distinctly seen in this view of the subject.
21. Symphysis of the pubes.
22. Arch of the pubes.
23. 23. Transverse processes of the third and fourth lumbar vertebræ, on the left side.
24. 24. Ligaments connecting the transverse processes of the two last lumbar vertebræ to the os innominatum, on the left side.
25. 25. Apertures caused by the decussation of the ligamentous fibres proceeding from the transverse processes of the fourth and fifth lumbar vertebræ, on the left side.
26. Posterior part of the crista of the ilium viewed through an opening in the above-mentioned ligaments, on the left side.
27. Concave surface of the ilium, on the left side.
28. 28. 28. Crista of the ilium, on the left side.
29. External labrum of the crista of the ilium, on the left side.
30. Internal labrum of the crista of the ilium, on the left side.
31. Upper front spinous process of the ilium, on the left side.
32. Lower front spinous process of the ilium, on the left side.
33. Lower back spinous process of the ilium, on the left side.
34. Bone of the ischium, on the left side.
35. Acetabulum, of the left side.
36. Tuberosity of the ischium, on the left side.
37. Bone of the pubes, on the left side.
38. Tubercle of the pubes, on the left side.
39. Smooth surface of the bone of the pubes over which the blood-vessels, &c. pass from the pelvis to the lower extremity, on the left side.
40. Membrane closing the oval aperture, or foramen thyroideum, on the left side.
41. Os sacrum.
42. Projection, or promontory of the sacrum.
43. Sacro-iliac symphysis, on the right side.
44. Sacro-iliac symphysis, on the left side.
45. 45. Apertures on the concave surface of the sacrum, through which the sacral nerves pass, on the right side.
46. 46. Apertures on the concave surface of the sacrum, through which the sacral nerves pass, on the left side.
47. Os coccygis.
48. Internal, or smaller sacro-ischiatic ligament, on the right side.
49. External, or larger sacro-ischiatic ligament, on the right side.
50. Internal, or smaller sacro-ischiatic ligament, on the left side.
51. External, or larger sacro-ischiatic ligament, on the left side.
52. Larger sacro-ischiatic foramen, on the right side.
53. Larger sacro-ischiatic foramen, on the left side.
54. 54. Line denoting the short or conjugate diameter of the superior aperture of the pelvis.
55. 55. Line denoting the transverse diameter of the superior aperture of the pelvis.
56. 56. 56. 56. Lines denoting the diagonal diameters of the superior aperture of the pelvis.
57. Axis of the superior aperture of the pelvis.

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EXPLANATION OF PLATE VI.

The Muscles of the Female Perineum and Anus.

This view of the female corresponds to Plate II. of the male, and displays the organs which are found at the inferior aperture of the pelvis. The boundaries of the opening are more clearly seen; and the dimensions are obviously much more considerable.

The rectum, with the levatores, occupies the back part, as in the male. In front are the vagina and meatus urinarius. The space separating the lower or back edge of the vagina from the rectum, is the perineum, and is very considerably shorter than that of the male. At the sides of the anterior division are placed the crura and erectores clitoridis, parts which correspond to the crura and erectores penis of the male, but are much smaller.

References to Plate VI.

1. 1. 1. 1. 1. Cut edge of the integuments and adipose substance.
2. Ascending ramus of the ischium, of the left side.
3. Descending ramus of the pubes, of the left side.
4. 4. Crus clitoridis, of the left side.
5. Erector clitoridis, of the left side.
6. Transversus perinei, of the left side.
7. Part of the sphincter vaginæ.
8. Part of the sphincter ani.
9. Levator ani, of the left side.
10. Anus.
11. Posterior fibres of the gluteus magnus, on the left side.

EXPLANATION OF PLATE VII.

A lateral View of the Viscera of the Female Pelvis in their Natural Situation.

This representation is analogous to that of the male parts in Plate IV, and has been derived from a similar section of the female pelvis; except that it has passed behind, through the left sacro-iliac symphysis. The left crus clitoridis has been cut through, and the integuments have been divided at the outer edge of the left nympha. The organs have suffered a displacement of the same kind with that noticed in the description of Plate IV, and from similar causes, but rather greater in degree.

The relations of the bladder on its anterior and upper parts and sides are the same as in Plate IV; the lower portion of its back surface lies against the front of the uterus, and its inferior surface rests on the vagina. The urethra, which is about one inch and a half in length, communicates with the bladder at the same part as in the male, is surrounded by no glandular body, but by a vascular substance somewhat resembling the corpus spongiosum, and pursues a straight course under the arch of the pubes to its termination.

The vagina lies between the under surface of the bladder and urethra on one side, and the rectum on the other. It is connected to the two first-named organs by cellular substance, and adheres much more closely to the urethra than to the bladder. A vascular body, called plexus retiformis, covers both the urethra and vagina towards the front, and unites them very strongly. It is continuous with the uterus, which is interposed between the back of the bladder and the front of the rectum.

The peritoneum is continued from the under and back part of the bladder to the front of the uterus, which it covers entirely, as well as the back of the same organ, and the posterior half of the under surface of the vagina, from which it is reflected to the rectum. A double fold of the membrane, under the name of the broad ligament, including the Fallopian tube, ovarium, and round ligament of the uterus, is continued from the side of the uterus to the pelvis. The anterior layer of this broad ligament lines a part of the pelvis, and is then continued to the side of the bladder; the posterior is continued in the same way to the rectum. Thus, in the female pelvis, are observed two productions of peritoneum, terminating below in cul de sacs; an anterior, between the bladder and uterus; a posterior, between the latter organ with the vagina, and the rectum. In this plate the peritoneum has been removed where it lined the side of the pelvis, and where it formed the broad ligament, so as to expose the mode of its application to the viscera, and the directions of its different reflections.

Plate VII.

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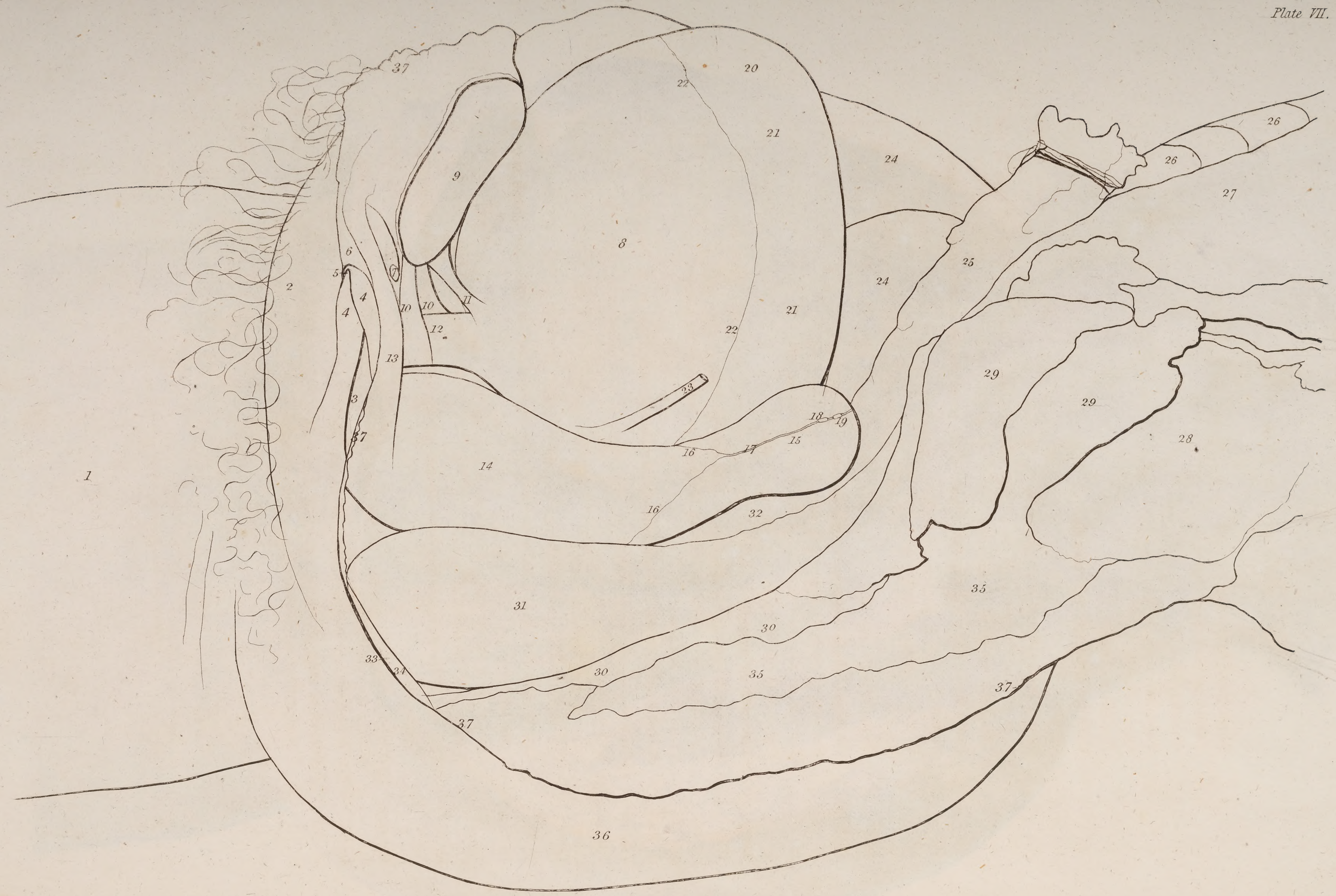

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References to Plate VII.

1. Thigh of the right side.
2. Labium pudendi of the right side.
3. Os externum.
4. 4. Nymphæ.
5. Glans clitoridis.
6. Preputium clitoridis.
7. Cut edge of the left crus clitoridis.
8. Bladder.
9. Sawn edge of the bone of the pubes, on the left side.
10. 10. A small muscle surrounding the urethra, and particularly described by Mr. Wilson in the Medico-Chirurgical Transactions.
11. Fascia connecting the neck of the bladder to the posterior edge of the arch of the pubes.
12. Urethra.
13. Plexus retiformis, of the left side.
14. Vagina.
15. Uterus.
16. 16. Cut edge of the peritoneum covering the uterus and vagina.
17. Cut edge of the broad ligament of the womb, on the left side.
18. Cut edge of the round ligament of the womb, on the left side.
19. Cut edge of the Fallopian tube, on the left side.
20. Fundus of the bladder.
21. Peritoneum covering the posterior surface of the bladder.
22. 22. Cut edge of the peritoneum covering the posterior surface of the bladder.
23. Ureter of the left side.
24. 24. Peritoneum lining the abdominal muscles, on the right side.
25. Rectum.
26. 26. Bodies of the lumbar vertebræ.
27. Cut surface of the psoas magnus.
28. Cut surface of the sacro-lumbalis and longissimus dorsi.
29. 29. Lateral surface of the sacrum, concerned in the formation of the sacro-iliac symphysis, on the left side.
30. Levator ani of the left side. Part of the muscle has been removed.
31. Rectum, with its muscular coat exposed.
32. That part of the rectum which is in contact with the uterus, and covered by a process of peritoneum.
33. Anus.
34. Edge of the sphincter ani.
35. 35. Cut surface of the gluteus magnus, of the left side.
36. Buttock of the right side.
37. 37. 37. 37. Cut edge of the integuments and adipose substance.

EXPLANATION OF PLATE VIII.

The External Organs of Generation of the Female Subject.

This representation was taken from a female in her eighteenth year, in whom the organs were in the virgin state.

The labia pudendi are separated from each other, so as to expose the glans of the clitoris with its preputium, which project in front of the pubes. From the lower part of this organ arise two thin folds of a somewhat spongy texture, called nymphæ, which, being continued downwards and outwards, are gradually lost in the sides of the os externum. The internal surfaces of the nymphæ constitute the upper and lateral boundaries of the os externum; while the lower margin of this opening, as represented in the plate, is formed by the anterior thin edge of the perineum, at the lower part, and by the sides of the vagina, laterally.

The orifice of the urethra is found situated between the nymphæ and immediately under the arch of the pubes, about an inch distant from the clitoris.

The hymen is a thin membrane of a falciform figure, situated at the lower part of the os externum, so as partially to close this opening. It is a membrane, however, of a different appearance in different women; but is usually found of the form already described. Its concave margin is turned towards the pubes.

The space, bounded in front by the lower edge of the os externum, and by the anus behind, is named the perineum. It is an inch or somewhat more in length; but is, in this respect, subject to great variety; as it is sometimes found to exceed two inches.

The anterior thin edge of the perineum, which is formed by the mutual convergence of the labia pudendi, is called frænum labiorum, or fourchette; the fossa navicularis being the space left between that part and the hymen.

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Plate VIII.

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References to Plate VIII.

1. Mons Veneris.
2. 2. Labia pudendi.
3. Glans clitoridis.
4. Preputium clitoridis.
5. 5. Nymphæ.
6. Orifice of the urethra.
7. Opening of the vagina, or os externum.
8. Hymen.
9. Perineum.
10. Anus.
11. Frænum labiorum, or fourchette.
12. Fossa navicularis.

END OF FASCICULUS II.

ERRATUM.

Page 7,——24. 24. *after* lumbar vertebræ, *read*, to the os innominatum, on the left side.

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